

AMENDMENTS TO THE CLAIMS

Claim 1 (cancelled)

Claim 2 (currently amended)

2. A composite material comprising a thermoplastic hydrophilic matrix having dispersed therein droplets of a hydrophilic inclusions comprising of a hydrophobic active ingredient, said droplets inclusions having a droplet size in the range of 0.01-2 microns.

Claim 3 (currently amended)

3. A composite material according to claim 2 wherein the droplets inclusions have a droplet size of between 0.05 μm and 1 μm .

Claim 4 (previously amended)

4. A composite material according to claim 2 wherein the load of active ingredient in the composite material is between 1 to 50% w/w.

Claim 5 (currently amended)

5. A composite material according to claim 5 2 wherein the load of the active ingredient in the composite material is between 5 to 15% w/w.

Claim 6 (previously amended)

6. A composite material according to claim 2 wherein the active ingredient is selected from the group consisting of a flavor compound, an extract, a precursor or a composition containing a flavor compound, and mixtures thereof.

Claim 7 (previously amended)

7. A composite material according to claim 2 wherein the active ingredient is selected from the group consisting of a fragrance, a fragrance precursor, an odor masking agent, and mixtures thereof.

Claim 8 (previously amended)

8. A composite material according to claim 2 wherein the active ingredient is a compound with biological activity.

Claim 9 (previously amended)

9. A composite material according to claim 8 wherein the compound with biological activity is selected from the group consisting of a pharmaceutically active substance, an insect repellent, a bactericide, a fungicide, an acaricide and mixtures thereof.

Claim 10 (currently amended)

10. A composite material according to claim 2 further comprising a second active ingredient dispersed in the emulsion inclusions.

Claim 11 (currently amended)

11. A method for preparing a composite material of claim 2 comprising:
- (a) mixing a liquid hydrophobic active ingredient in a oil-in-water emulsion with a matrix premix comprising a thermoplastic hydrophilic polymer; and
- (b) extruding the mixture (a) to form a composite material characterized in that the composite material comprises a thermoplastic hydrophilic matrix and a hydrophobic active ingredient dispersed as droplets hydrophobic inclusions in the said matrix said droplets inclusions having a droplet size of between 0.01 μm to 2 μm in the matrix.
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Claim 12 (original)

12. A method according to claim 11 further comprising introducing the mixture of (a) into an extruder before extrusion.

Claim 13 (original)

13. A method according to claim 11 further comprising introducing the oil-in-water emulsion into a barrel of an extruder, which barrel contains the matrix premix, and mixing the emulsion droplets with the matrix premix.

Claim 14 (original)

14. A method according to claim 11 wherein a polymeric fraction comprises 50% w/w to 100% w/w of the matrix premix.

Claim 15 (original)

15. A method according to claim 11 wherein the oil-in-water emulsion contains 5 to 80% w/w active ingredients, 10 to 90% w/w water, 0.5 to 10% w/w emulsifier, and 0 to 10% w/w additives.

Claim 16 (original)

16. A method according to claim 11 wherein the oil-in-water emulsion contains 30 to 60% w/w active ingredients, 15 to 40% w/w water, 0.5 to 10% w/w emulsifier, and 0 to 10% w/w additives.

Claim 17 (original)

17. A method according to claim 11 wherein the matrix premix comprises a hydrophilic thermoplastic polymer and an additive.

Claim 18 (original)

18. A method according to claim 17 wherein the hydrophilic thermoplastic polymer is selected from the group consisting of native starch, modified starch, thermoplastic starch, polyvinyl alcohol, its copolymers and polyesters.

Claim 19 (original)

19. A method according to claim 17 wherein the additive is selected from the group consisting of crosslinking agents, plasticizers, antiplasticizers, fillers, and mixtures thereof.

Claim 20 (original)

20. A method according to claim 11 wherein the oil-in-water emulsion further comprises an emulsifier and a surfactant.

Claim 21 (original)

21. A method according to claim 20 wherein the emulsifier is selected from the group consisting of modified starch, a sucrose or sorbitol ester of a fatty acid, a carbohydrate, a phospholipids, and mixtures thereof.

Claim 22 (original)

22. A method according to claim 20 wherein the surfactant is selected from the group consisting of monomolecular surfactant, a polymeric surfactant, and a colloid stabilizer.

Claim 23 (original)

23. A method according to claim 20 further comprising a co-surfactant.

Claim 24 (original)

24. A method according to claim 23 wherein the co-surfactant is a primary alcohol or a short chain alkylsulfate.

Claim 25 (currently amended)

25. A protective or controlled release system for an active ingredient comprising a composite material comprising a thermoplastic hydrophilic matrix and a hydrophobic active ingredient dispersed as droplets hydrophobic inclusions within the thermoplastic hydrophilic matrix and having a droplet size in the range of 0.01 - 2 microns.

Claim 26 (original)

26. A protective or controlled release system according to claim 25 wherein the active ingredient is a flavor or a fragrance.

Claim 27 (original)

27. A protective or controlled release system according to claim 26 wherein the composite material comprising a fragrance as the active ingredient is incorporated into a consumer product selected from the group consisting of a dry detergent, a household product, and a cosmetic.

Claim 28 (currently amended)

28. A composite material comprising thermoplastic hydrophilic matrix and a hydrophobic active ingredient dispersed as droplets hydrophobic inclusions in the said thermoplastic hydrophobic hydrophilic matrix said droplets inclusions having a droplet size in the range of 0.01 - 2 microns produced by a process which includes the steps of:

- (a) forming a mixture of a hydrophobic liquid active ingredient in a oil-in-water emulsion with a matrix premix comprising a thermoplastic hydrophilic polymer; and
- (b) extruding the mixture of (a) to form a composite material.

Claim 29 (previously added)

29. The composite material according to claim 28 wherein the process including the further step of:

introducing the mixture of (a) into an extruder before extrusion.

Claim 30 (previously added)

30. The composite material according to claim 28 wherein the process includes the further step of: introducing an oil-in-water emulsion containing the hydrophobic active ingredient into a barrel of an extruder, which barrel contains the matrix premix, and mixing the oil-in-water emulsion with the matrix premix.

Claim 31 (previously added)

31. The composite material according to claim 28 wherein the process includes the further step of: forming a mixture of a hydrophobic active ingredient in an oil-in-water emulsion, with a matrix premix comprising a thermoplastic hydrophilic polymer wherein the polymeric fraction comprises 50% w/w to 100% w/w of the matrix premix.

Claim 32 (previously added)

32. The composite material according to claim 28 wherein the process includes the further step of: forming a mixture of a hydrophobic active ingredient in an oil-in-water emulsion, with a matrix premix comprising a thermoplastic hydrophilic polymer wherein the oil-in-water emulsion contains 5 to 80% w/w active ingredients, 10 to 90% w/w water, 0.5 to 10% w/w emulsifier, and 0 to 10% w/w additives.

Claim 33 (previously added)

33. The composite material according to claim 28 wherein the process includes the further step of: forming a mixture of a hydrophobic active ingredient in an oil-in-water emulsion, with a matrix premix comprising a thermoplastic hydrophilic polymer wherein the oil-in-water emulsion contains 30 to 60% w/w active ingredients, 15 to 40% w/w water, 0.5 to 10% w/w emulsifier, and 0 to 10% w/w additives.

Claim 34 (previously added)

34. The composite material according to claim 28 wherein the process includes the further step of: forming a mixture of a hydrophobic active ingredient in an oil-in-water emulsion with a matrix premix comprising a thermoplastic hydrophilic polymer wherein the matrix premix comprises a hydrophilic thermoplastic polymer and an additive.

Claim 35 (previously added)

35. The composite material according to claim 28 wherein the process includes the further step of: forming a mixture of a hydrophobic active ingredient in an oil-in-water emulsion with a matrix premix comprising a thermoplastic hydrophilic polymer wherein the hydrophilic thermoplastic polymer is selected from the group consisting of native starch, modified starch, thermoplastic starch, polyvinyl alcohol, its copolymers, and polyesters.

Claim 36 (previously added)

36. The composite material according to claim 34 wherein the additive is selected from the group consisting of cross linking agents, plasticizers, antiplasticizers, fillers, and mixtures thereof.

Claim 37 (previously added)

37. The composite material according to claim 28 wherein the process includes the further step of: forming a mixture of a hydrophobic active ingredient in an oil-in-water emulsion with a matrix premix comprising a thermoplastic hydrophilic polymer wherein the oil-in-water emulsion further comprises an emulsifier and a surfactant.

Claim 38 (previously added)

38. The composite material according to claim 37 wherein the emulsifier is selected from the group consisting of a modified starch, a sucrose or sorbitol ester of a fatty acid, a carbohydrate, a phospholipid, and mixtures thereof.

Claim 39 (previously added)

39. The composite material according to claim 37 wherein the surfactant is selected from the group consisting of a monomolecular surfactant, a polymeric surfactant, and a colloid stabilizer.

Claim 40 (previously added)

40. The composite material according to claim 39 wherein there is also present a co-surfactant.

Claim 41 (previously added)

41. The composite material according to claim 40 wherein the co-surfactant is a primary alcohol or a short chain alkylsulfate.